



EXPERIMENT - 10

Object Oriented Programming Lab

Aim

Write a program to find the sum of two numbers declared in a class and display the numbers and sum using friend class.

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Aim:

Write a program to find the sum of two numbers declared in a class and display the numbers and sum using friend class.

Source Code:

```
#include <iostream>
using namespace std;

class twoNum{
    private:
        int a, b;

    public:
        void input(){
            cout << "Enter 2 numbers: ";
            cin >> a >> b;
        }

        friend void sum(twoNum t);
};

void sum(twoNum t){
    cout << "First number is: " << t.a << endl;
    cout << "Second number is: " << t.b << endl;
    cout << "Sum of these numbers is " << t.a + t.b << endl;
}

int main(){
```

```
    twoNum t;  
    t.input();  
    sum(t);  
    return 0;  
}
```

Output:

```
PS D:\sem 4\cpp\oops> cd "d:\sem 4\cpp\oops\" ; if ($?) { g++ friendSum.cpp -o friendSum } ; if ($?) { .\friendSum }
Enter 2 numbers: 12 8
First number is: 12
Second number is: 8
Sum of these numbers is 20
PS D:\sem 4\cpp\oops> cd "d:\sem 4\cpp\oops\" ; if ($?) { g++ friendSum.cpp -o friendSum } ; if ($?) { .\friendSum }
Enter 2 numbers: 23 16
First number is: 23
Second number is: 16
Sum of these numbers is 39
PS D:\sem 4\cpp\oops> █
```

```
PS D:\sem 4\cpp\oops> cd "d:\sem 4\cpp\oops\" ; if ($?) { g++ friendSum.cpp -o friendSum } ; if ($?) { .\friendSum }
Enter 2 numbers:
13
23
First number is: 13
Second number is: 23
Sum of these numbers is 36
PS D:\sem 4\cpp\oops> █
```

Viva Questions

Q1. What are the benefits of friend function?

Ans.

- A friend function is used to access the non-public members of a class.
- It allows to generate more efficient code.
- It provides additional functionality which is not normally used by the class.
- It allows to share private class information by a non member function.
- It is used when two or more classes may contain members that are interrelated relative to others parts of the program.

Q2. What are disadvantages of friend function?

Ans.

- A derived class does not inherit friend function.
- Friend functions can not have a storage class specifier i.e they can not be declared as static or extern.